REMARKS

Claims 18-20 and 36-42 are pending. Prior claims 18-20 were rejected as allegedly being unpatentable over U.S. Patent No. 6,011,625 to Glass. Claim 18 has been amended. Claims 36-42 have been added. No claims have been canceled. Reexamination and reconsideration of the pending claims are respectfully requested.

Prior Rejections to Claims under 35 U.S.C. §§ 102 and 103

Claim 18 was rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,011,625 to Glass (hereinafter "Glass"). Claims 18-20 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Glass. Such rejections are traversed in part and overcome in part as follows.

Claim 18 recites a method for determining an accuracy of a gradient array in an optical tissue. Claim 18 recites the method steps of transmitting an image through the optical tissue and determining local gradients from the transmitted image. Additionally, claim 18 recites integrating along a closed integration path.

Applicants respectfully submit that the Glass reference fails to teach or reasonably suggest any one of the three method steps recited in claim 18. More specifically, Glass fails to teach or reasonably suggest a method of determining an accuracy of a gradient array in which an image is transmitted through an optical tissue, and/or in which local gradients are determined from the transmitted image, and/or in which integration occurs along a closed integration path across a gradient array from such an optical tissue. First addressing the rejection of claim 18 under 35 U.S.C. § 102, Applicants note that the Glass reference is directed to methods for phase unwrapping in imaging systems. While the background of the invention portion of the Glass reference notes that computed imaging systems are employed in medicine (see Glass, Col. 1, lines 25-33), the Glass invention pertains to an improved method for phase unwrapping imaging systems in interferometric synthetic aperture radar applications to determine terrain height. [Glass, Col. 1, line 5-15]

Per the 'Field of the Invention' section of Glass, "The [Glass] invention relates to coherent imaging systems in which two complex images of an imaged region may be merged . . . More particularly, the [Glass] invention . . . is particularly apt for application to interferometric synthetic aperture radar (IFSAR) applications to determine terrain height within an imaged terrain region." [Glass, Col. 1, lines 4-14] While the 'Background' section of Glass briefly notes that computed imaging systems are employed in medicine, the Glass reference explains the problem to be solved by the Glass invention, in part, as follows:

> *"In order to derive height information from the interferogram, the wrapped phase differences must be unwrapped and corresponding integration constants must be determined . . . In addressing such task, it has been recognized that the imaged terrain cannot be of a nature . . . adversely impacting the accuracy of results.*
>
> *Specifically, adjacent sample-to-sample phase differences of unwrapped interferometric data should be no more than 180°. Such limitation can become problematic when the imaged region comprises steep pastoral terrain (e.g., near vertical natural geographical features) or cultural features (e.g., man-made structures such as buildings). When such features are present, phase unwrapping may result in inconsistent data that renders the entire height estimation unreliable.*
>
> *To understand such inconsistencies, consider a closed path consisting of one step forward, a step to the left, a step to the left again, and then a final step to the left. After the four steps, one should active back at the starting point. Interferometric differential phase data is supposed to represent terrain height, but in situations that present the above-mentioned problem (i.e., adjacent samples whose phase difference is >180°), it is possible that the sum of phase differences around a closed, four-point path in the interferogram is non-zero. Such a result would indicate that if one converted the phase differences to height differences and summed them around the path, one would not arrive back at the starting height.*
>
> *. . . Further, future systems are desired which can provide sub-meter accuracies with a high degree of assurance. The [known] phase unwrapping techniques are not up to the task."* [Glass, Col. 2, lines 4-59]

Hence, the Glass reference seeks to identify terrain heights by interferometric techniques. These techniques generally involve projecting multiple images onto a single surface so

that the images interfere on that surface, and the Glass invention involves mathematical "unwrapping" techniques for interpreting the interferogram so as to resolve terrain heights adjacent cliffs and vertical building surfaces of that surface. As Applicants understand the Glass invention, there is no reasonable teaching or suggestion that light instead be transmitted through the surface that is being characterized, that gradients be measured of the light transmitted through the surface, or that integration occur across the measured gradients of light transmitted through the surface.

Applicants' claims are directed to novel methods involving transmitting light through optical tissues. Rather than simply generating an interferogram on a surface, the methods of the present invention will allow the optical properties of the underlying optical system to be characterized. The gradients measured when transmitting light through an ocular optical system do not necessarily correspond exactly to an outer surface of the cornea, as aberrations may be imposed by sub-surface defects. Hence, the resulting measurements can provide information that is fundamentally different than the terrain heights discussed in the Glass reference. Furthermore, the rationale for the closed loop described in Glass, so as to resolve terrain heights around vertical cliffs and buildings, is not applicable to the ocular optical measurement methods claimed in the present application. Hence, Glass neither teaches nor reasonably suggests the advantageous methods now being claimed.

Applicants have amended claim 18 to recite that the local gradients determined from the transmitted image are gradients of the array. As it is across this array that integration occurs in the final method step of claim 18, Applicants respectfully submit that each and every method step included in claim 18 is absent from the Glass reference. Furthermore, as the vertical cliffs and buildings which induce the unwrapping inconsistencies Glass seeks to resolve are absent from the optical tissue gradients across which integration occurs, Applicants respectfully submit that no reasonable basis has been established for applying any methodology of the Glass reference to the optical tissue measurement methods now being claimed.

Added Claims

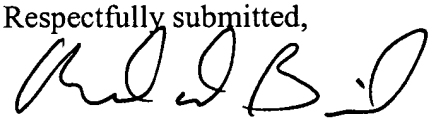
Applicants have added dependent claims 36-42. Support for these claims is found throughout the originally filed specification, and particularly in the originally filed dependent claims which previously depended from now canceled independent claim 1. Examination and consideration of these added dependent claims are respectfully requested.

Conclusion

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (650) 326-2400.

Respectfully submitted,



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